

Abstract of the Invention

CIRCUIT AND METHOD FOR DRIVING A COIL-ARMATURE DEVICE

Methods and circuits for driving a coil-armature device are disclosed. The circuits are configured to drive the coil-armature device to a first energy level for a period of time sufficient to retract the armature to the center of the coil, and then, to drive the coil-armature device to a second energy level subsequently. The first energy level is greater than the second energy level. The second energy level may be achieved by alternatively connecting and disconnecting a driving voltage to the coil-armature device according to a “hold” mode duty cycle. The first energy level may be achieved by connecting the driving voltage to the coil-armature device continuously for a period of time sufficient to retract the armature to the center of the coil. Alternatively, the first energy level may be achieved by alternatively connecting and disconnecting the driving voltage to the coil-armature device according to a “pull-in” mode duty cycle, which is different from the “hold” mode duty cycle.